TASMANIAN WILDLIFE TOURISM INVENTORY: DEVELOPING AN INVENTORY OF WILDLIFE VIEWING OPPORTUNITIES

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This industry report forms a part of the requirements for the Australian Cooperative Research Centre for Sustainable Tourism Reporting.

This research was supported by the CRC for Sustainable Tourism, University of Tasmania, Tasmanian Parks and Wildlife Service and Tourism Tasmania.

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Executive Summary

Aims

The key objectives of this project were to:

- identify and map core wildlife tourism viewing opportunities across Tasmania;
- make suggestions on how to enhance wildlife viewing sites for tourism;
- improve the accuracy and quality of information provided to tourists; and
- market wildlife tourism both internationally and to domestic tourists.

Methodology

Extensive fieldwork collated details of existing wildlife tourism operators and sites and also identified potential future operators and sites. During this work tourism operators, natural resource managers such as Parks and Wildlife Service staff, non-governmental groups, wildlife experts and tourism managers were contacted. From these discussions a number of ideas for further enhancing wildlife tourism in Tasmania emerged.

The resulting database of wildlife tourism viewing opportunities in Tasmania includes 110 operators, 140 different wildlife tours and around 220 species. The database was then significantly enhanced by the creation of a Geographical Information System (GIS). This format allows much greater flexibility in the way the data can be used and manipulated. The resulting spatial mapping and electronic database represents the Tasmania Wildlife Tourism Inventory (TWTI).

Immediate Use

To ensure immediate use both within the industry and to a wider set of stakeholders, including wildlife tourism operators themselves, the GIS version of the Tasmanian Wildlife Tourism Inventory is to be merged into Tourism Tasmania's TigerTOUR, a purpose built database that contains information on the tourism product within Tasmania. TigerTOUR is updated daily and can be accessed via several means:

- Tourism Tasmania staff (including Tasmanian Travel Centres in Melbourne and Sydney) and Tasmanian Visitor Information Centres staff directly use TigerTOUR;
- Tourism Tasmania's public website uses TigerTOUR product information;
- The Tasmanian Travelways newspaper displaying free listings of accommodation, tours and attractions is based on TigerTOUR information; and
- Other websites, including the Travelways website, draw information from TigerTOUR.

TigerTOUR started providing information to the Australian Tourism Data Warehouse in mid-2001 and this will ultimately be displayed on the Australian Tourist Commission's website. Through these products the Tasmanian Wildlife Tourism Inventory is available and readily accessible to both international and domestic tourists.

Further Uses

The Tasmanian Wildlife Tourism Inventory is also able to provide a solid base for further development work in the wildlife tourism industry. In its current form it can be used for the:

- promotion of wildlife tourism in regional tourism development;
- promotion of best practice models for wildlife tourism;
- development of networking within the wildlife tourism industry;
- education of the public about unique wildlife and viewing opportunities;
- offering to people enjoyable, high quality interpretive wildlife experiences;
- better management of the sector; and
- targeting of segments within the wildlife tourism sector for more specific marketing.

Future Research and Uses of the Tasmanian Wildlife Tourism Inventory

Further examination of the ability of inventory to be integrated into future product development goals of the Wildlife Tourism Strategy (WTS) still needs to be undertaken. The WTS is assessing market demand and supply and identifying product gaps and opportunities with clear direction in terms of fulfilling shortfalls. The TWTI will significantly enhance this process as well as help in the assessment of the role of wildlife tourism in regional tourism development, with particular emphasis on establishing strategically located visitor nodes for specialist markets.

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1. INTRODUCTION

This is a final report to the CRC for Sustainable Tourism outlining the results of the 1999/2000 project entitled 'Tasmanian Wildlife Tourism: Developing an Inventory of Wildlife Viewing'. The report outlines the project brief and objectives and summarises how each objective has been met. It then describes the methodology taken and database produced. The report also covers some of the issues raised during fieldwork, further ideas for extending the inventory and future possibilities for further use.

During the fieldwork section of this project many little known wildlife tourism opportunities were discovered. While some of this information is still at a preliminary level, it is included to provide a basis for further work examining the potential for future sites and opportunities to expand wildlife tourism in Tasmania.

2. BACKGROUND

This project is part of a larger Wildlife Tourism Strategy with a vision 'to establish Tasmania as a world-class wildlife destination by identifying and facilitating the sustainable development and management of wildlife tourism.'

Tasmania is a large island with a great range of habitats and consequent diverse and unique wildlife. Overall, wildlife has been minimally impacted by introduced species, habitat loss, hunting, pollution and accidents such as road kills. Thus, Tasmania's wildlife largely remains abundant and available for tourism.

Wildlife tourism offers the State significant potential in terms of enhancing the visitor experience, economic benefit and employment and wildlife conservation but is not well developed. To present wildlife in an appropriate manner Tasmania needs to set a clear vision for the development and management of wildlife tourism. It also needs the support of the diverse range of stakeholders that are vital for the management and coordination of this sector. As well as tourists and wildlife tourism operators, natural resource agencies, particularly the Tasmanian Parks and Wildlife Service, Tourism Tasmania and a number of key wildlife experts and conservation groups are also important. By enhancing the coordination between these groups much better product development, best practice viewing, monitoring and management of the industry can occur to ensure sustainability within the industry.

Usually the best place to view wildlife is away from urban areas. Therefore, wildlife tourism can play a critical role in supporting regional development. In its role of 'value-adding' to wildlife, tourism can contribute to wildlife conservation both indirectly through increasing community appreciation of wildlife and directly by use of best-practice techniques and monitoring of effects.

Wildlife tourism can deliver benefits that enhance the visitor experience, improve the management of wildlife and act as a catalyst for regional

development. Sound development and use can deliver management benefits in terms of presentation, funding, education, interpretation and research.

Research has pointed to the need for the development of an inventory of current and potential sites for research requirements as well as for marketing. Higginbottom and Hardy (1999:25) state:

> A key impediment to growth of wildlife tourism in Australia is the lack of knowledge by those in the tourism industry of the potential of lesser known sites and species, so that a few sites are being excessively used while many are ignored. Coupled with this is a lack of general information on the vulnerability of many species and habitats. There is also the danger that information on attractions, without guidelines for their protection will lead to over exploitation. As a consequence, the very features that make them valuable for tourism as well as for scientific study and the conservation of biodiversity may be destroyed.
>
> There is a large amount of information available on Australian wildlife but this tends to be fragmented and not always easily accessible by tourism operators with limited time available for extensive research. Moreover information on potential attractions is not often linked with information on conservation requirements specific to these, but the development of a truly sustainable wildlife tourism industry will depend heavily on such linkage.

The development of the Tasmania Wildlife Tourism Inventory helps address these issues.

3. PROJECT BRIEF AND METHODOLOGY

The project brief was to establish an updated inventory of key wildlife tourism experiences, their location and management and report on such to the Wildlife Tourism Project Steering Committee comprising representatives of Tourism Tasmania, Tasmanian Parks & Wildlife Service, University of Tasmania and Forestry Tasmania.

Tasmania has a substantial natural resource base upon which to develop wildlife tourism as a key tourism product. Around 20% of the island is World Heritage Area (1.38 million hectares) and over 30% is reserved area. Wildlife tourism has considerable potential for economic growth, particularly in regional Tasmania. The State has a diverse range of wildlife including many species found nowhere else, such as the Green Rosella, Tasmanian Devil, and species almost extinct elsewhere but common in Tasmania such as Quolls and the Eastern Barred Bandicoot. The variety is enhanced with the absence of fox and the diverse habitats from mountains to the coast.

To help promote this resource a Tasmanian Wildlife Tourism Strategy is being undertaken by Tourism Tasmania, Tasmania Parks & Wildlife, the University of Tasmania, and Forestry Tasmania. This project is an integral part of the larger strategy and aimed to research and develop Tasmania's wildlife tourism opportunities by identifying and mapping Tasmanian wildlife opportunities based on diversity, uniqueness, accessibility and appropriateness. Core wildlife tourism viewing opportunities such as nocturnal experiences, marine viewing, bird watching, ground mammals, and experiences associated with accommodation had already been described. By identifying existing operators and developing further opportunities for wildlife tourism, there is the potential to

use wildlife tourism to assist in the management of wildlife and habitats through careful management of sites, long term monitoring and education. The results of this project will help provide industry and government with the necessary information and strategic direction to establish Tasmania as a world-class wildlife tourism destination by identifying and facilitating the sustainable development and management of wildlife tourism.

During the fieldwork for developing this inventory, the larger scope of the entire strategy was kept in mind. Extensive discussions were required to build up the database of sites and operators across Tasmania and during the course of these conversations many other ideas and issues concerning wildlife tourism also emerged. While some were not specifically part of the brief of this project, the results are documented in the final sections of this report. Many are piecemeal or form ad hoc comments but together they provide valuable core material for building some of the further stages of the wildlife tourism strategy. Consequently, instead of leaving them in a working file, they have been included in this report. A separate working file has been forwarded to Tourism Tasmania containing potential further sites and operators identified during the course of the project. These will be particularly useful when looking at regional analysis and specific market development strategies.

4. OBJECTIVES AND SUMMARY OF RESULTS

- **Identify and map core wildlife tourism viewing opportunities across Tasmania.**

The first objective has been achieved with the production of the Tasmanian Wildlife Tourism Inventory. By extending this database and producing a Geographic Information System representation, these data have also become much more flexible. A separate report entitled "Tasmanian Wildlife Tourism: Developing a GIS Inventory of Wildlife Tourism" has been produced that specifically details the GIS component of the project (Estergaard Jacobson de Lopez 2001). The methodology used for its production and the results are outlined in this report. Obviously it is a working database that will require regular updating as operators, facilities and opportunities change over time. Recommendations for further updates and improvements are included. The requirements for further additions, for flexibility and enhancement of ideas and for the tool to be able to be used for various purposes besides marketing (such as helping with environmental best practice education and developing a network for use within the industry) have been kept in mind during development of the inventory.

- **Make suggestions on how to enhance wildlife viewing sites for tourism.**

During the production of this inventory, discussions were held with a broad range of operators, Parks & Wildlife Service staff, non-governmental groups, wildlife experts, tourism operators and tourism managers. From these discussions and from literature reviews, several areas for further enhancing the quality of wildlife tourism in Tasmania emerged:

1. Enhancing the existing GIS form of the TWTI by:

    a. identifying potential new operators that could be added to the database
    b. identifying potential new sites that could be added (Section 6.1);

2. Improving the knowledge of both tourist and operator in best viewing practices (minimum impact viewing guidelines) and establishing management and monitoring of impacts of wildlife tourism on habitat (Section 6.2); and

3. Improving the quality of interpretation and education given by operators through:

    a. use of the TWTI in networking.
    b. workshops conducted in 2000.
    c. further development of interpretation ideas and aids, such as interpretive kits.

- **Improve the accuracy and quality of information provided to tourists.**

The production of the TWTI has provided a detailed and accurate tool that can be readily and cost-effectively updated to provide high quality and up to date information for the tourist market. Much of its success will lie in the form it is available to travel agents and tourists. Suggestions for ensuing its usefulness is maximized are in found in Section 5.

- **Market wildlife tourism both internationally and to domestic tourists.**

The task of marketing wildlife tourism to both domestic and international visitors is obviously multi-faceted and a major task. The production of the TWTI enables industry representatives, potential tourists and the media to access high quality data of a specific nature. As the information is held as a database it also allows rapid and cost-effective updating as well as easy manipulation to produce further tools allowing the marketing of Tasmanian wildlife tourism to become more efficient.

Initial marketing will be via a merging with Tourism Tasmania's TigerTOUR, a purpose built database that contains information on the tourism product within Tasmania. TigerTOUR is updated daily, has no cost associated with it and can be accessed via several means:

- Tourism Tasmania staff (including Tasmanian Travel Centres in Melbourne and Sydney) and Tasmanian Visitor Information Centres staff use TigerTOUR directly.
- TigerTOUR provides product information for Tourism Tasmania's public website.

- The Tasmanian Travelways newspaper displays free listings of accommodation, tours and attractions. TigerTOUR provides this information.
- Other websites, including the Travelways website, draw information from TigerTOUR.
- TigerTOUR will provide information to the Australian Tourism Data Warehouse from mid-2001 that will ultimately be displayed on the Australian Tourist Commission's website.

Further uses and product development stages for the TWTI are also being discussed. Possible subsequent additions include the production of multi-lingual versions, the ability to feature award winners and the further segmenting of the market to allow different types of wildlife tourist to focus on the activity they are interested in, such as bird watching or working with scientific researchers.

5. PROJECT DESCRIPTION AND RESULTS

5.1 Project Funding, Duration and Approach

This was a six-month project funded by the Cooperative Research Centre for Sustainable Tourism through a grant to the University of Tasmania. The data collection and database production stage ran from November 1999 until May 2000. To complete these tasks a Research Assistant, Heather Kirkpatrick, was hired by the Chief Investigator, Dr Lorne K. Kriwoken (Centre for Environmental Studies, School of Geography and Environmental Studies, University of Tasmania, Hobart). Together with the tasks listed below, regular meetings were held with the Wildlife Tourism Project Steering Committee; interviews were held with wildlife experts in the Nature Conservation Branch of the Department of Primary Industry, Water and Environment, the Tasmanian Museum and Art Gallery, the Queen Victoria Museum, Tourism Tasmania staff and private naturalists. In addition, presentations were made at the Wildlife Tourism Workshops discussed below.

5.2 Stage 1: Inventory of Accessibility and Appropriateness of Location for Wildlife Viewing and Selection of Sites and Species

Initially a review of wildlife tourism literature was conducted to help understand the issues confronting the industry. The potential profiles, motivations and expectations of wildlife tourists and other factors impacting the satisfaction levels within the industry as well as possible impacts on the environment were analysed. Using information gained from these sources plus discussions with a wide range of University, Parks & Wildlife Staff and Tourism Tasmania staff as well as wildlife experts, the information required for the database and the design of the field inventory form were constructed.

Definition and Scope of Wildlife Tourism
For the purpose of this project, wildlife is defined as all plant and animal life native to Tasmania. This definition includes land, freshwater and marine plants and animals and includes non-domesticated (non-human) animals in both captive and free-range settings. Wildlife tourism has been narrowly construed

to include only non-consumptive styles and exclude consumptive activities that involve killing or directly maiming animals, such as hunting and fishing. The geographical scope of the project is Tasmania and all its offshore islands, including Macquarie Island. The project also considered Tasmania's position with regard to Antarctic wildlife tourism.

Focus for the Tasmania Wildlife Tourism Inventory
The next phase of the production of the TWTI was to identify wildlife tourism businesses, viewing sites, wildlife experts and other relevant organisations for information input to the inventory. While the scope of the whole project is listed above, the inventory was undertaken with a focus on operators and sites featuring wildlife as the primary focus of the visit. Special consideration was given to migratory species and species available for viewing in shoulder and low seasons. Two zones, urban/recreation and remote/recreation were also defined by accessibility, environmental sensitivity and ability to attract and accommodate visitors.

A field inventory form was then designed and these were completed over a period of around five months. This process also involved extensive discussions and site visits including experiencing approximately 25% of the wildlife tours offered. Visits to operators or sites were prioritised as follows:

- existing Wildlife Tourism Operators working in National Parks included in the database;
- Parks and Wildlife Service ranger stations at key National Parks; and
- wildlife experts, and relevant representatives of non-government organisations involved with nature conservation.

During the production of the TWTI several definitional issues were identified that require clarification.

- In each case the focus was on tourism operators offering wildlife as a primary focus for their tours. For example, a 4WD adventure tour that might incidentally see wildlife would not satisfy this criterion, but a 4WD operator offering wildlife spotlighting was included.

- Wildlife viewing, by the very nature is somewhat unreliable. Therefore, it was decided that at each viewing site the survey would focus on only those species that tourists would have a very good chance of seeing (80% or greater reliability as estimated by the operators). Species lists were limited also as clearly it is impractical to list every plant species that will be seen. Instead threatened, endangered and popular species were concentrated on.

- Significant sites for tourism had to be identified and separated from an informant's favourite locations for viewing wildlife, particularly with respect to self-guided locations. Recognised key sites were established as places where multiple opportunities are available (e.g. platypus at Fernglade Reserve or macropods and wombats at Narawntapu National Park) or where an 'essential' species was located (e.g. Little penguins).

- Captive animal sites/zoos are included in the database. Past research shows these attract a significant proportion of the wildlife tourism market and it is appropriate to include these. It is also increasingly difficult to separate between wild and captive animals as the maintenance of rare animals may require extensive fencing to keep cats and foxes at bay (e.g. Earth Sanctuaries Ltd. and Useless Loop in West Australia).

- There are many self-guided walks to, or through, wildlife viewing areas and scenic plant communities that have not been included as operator run trips were given priority.

- Consumptive styles of wildlife tourism such as hunting and fishing were not included.

- Activities on private land were included as well as public land areas such as national parks. This decision was made, as there is an increasing recognition that conservation practices must be extended to a much broader area than just public reserves and wildlife tourism can be one way to provide economic incentives to landowners to practice good conservation.

- Although the wildlife definition includes plants, few tours were included. This is an area that could be expanded and requires further analysis.

Data were then imputed into a Geographical Information System. The viewing potential of existing wildlife sites was then analysed using a regional approach. Following this mapping, a more detailed site inventory was completed. Sites with the capability to support wildlife-viewing activity were identified.

5.3 The Tasmania Wildlife Tourism Inventory

The final product is a very flexible Geographical Information System. The specific objectives during its production were to:

- to design a spatial database to facilitate the management of wildlife tourism;
- establish relational database structures;
- allow for regular updates; and
- be user friendly.

The result is an electronically stored database capable of being interrogated using a variety of different descriptors. For instance, it can be used as a technique to find the location of certain species for viewing, to find a category of wildlife, to find what is available at a given location, or to find the operations of a specific operator. These features can also be cross-referenced so the inventory can be interrogated to find which operator sees which species at a specific site or region.

However the inventory's power is that it is far more than just an electronic table. It has a geographical perspective and can represent wildlife tourism opportunities pictorially on maps. This allows it to be much more user friendly, particularly for those not familiar with Tasmanian geography.

It has also been set up to be user friendly in computer terms, so it does not require wholesalers, travel agents or individual tourists to have any specific programming or software skills. By also integrating it into TigerTOUR, the Tourism Tasmania information base, its ability to be used quickly and efficiently is further enhanced as many operators are already regularly interfacing with this facility.

Interrogation of the database can be undertaken via any of the following four characteristics - operator information, details on each tour, site or species viewed. Figure 1 shows how the GIS can be interrogated by operator (in this case Tasmanian Adventure Tours – Under Down Under Tours). The database then reveals the viewing sites that the operator visits and the variety of species that can be seen using this operator at each site. Figure 2 shows the same information but with a geographic reference and contact for the operator.

Figure 3 shows the database interrogated by a chosen species (in this case a platypus). After selection, the database shows all operators that are appropriate and viewing sites where a platypus can be seen. Figure 4 shows the same information with a geographic perspective.

A higher wildlife grouping has also been put in place so the database can be interrogated by using 'kangaroos and wallabies' rather than 'Bennetts wallaby' for instance. This higher-level species grouping has been constructed with the tourist in mind rather than adhering to a conventional taxonomic structure. With respect to animals this has not created a large difference although animals considered currently of significance to tourism in Tasmania have more grouping divisions (marsupials) than those currently of less significance (invertebrates). The grouping is less conventional and broader for flora as plant communities such as 'rainforest', tourist categories such as 'tall trees' and 'wildflowers', and species oriented groups such as 'native conifers', have all been used. Figure 5 shows the higher-level wildlife categories.

Figure 1 – Database Interrogated by Wildlife Tour Operator

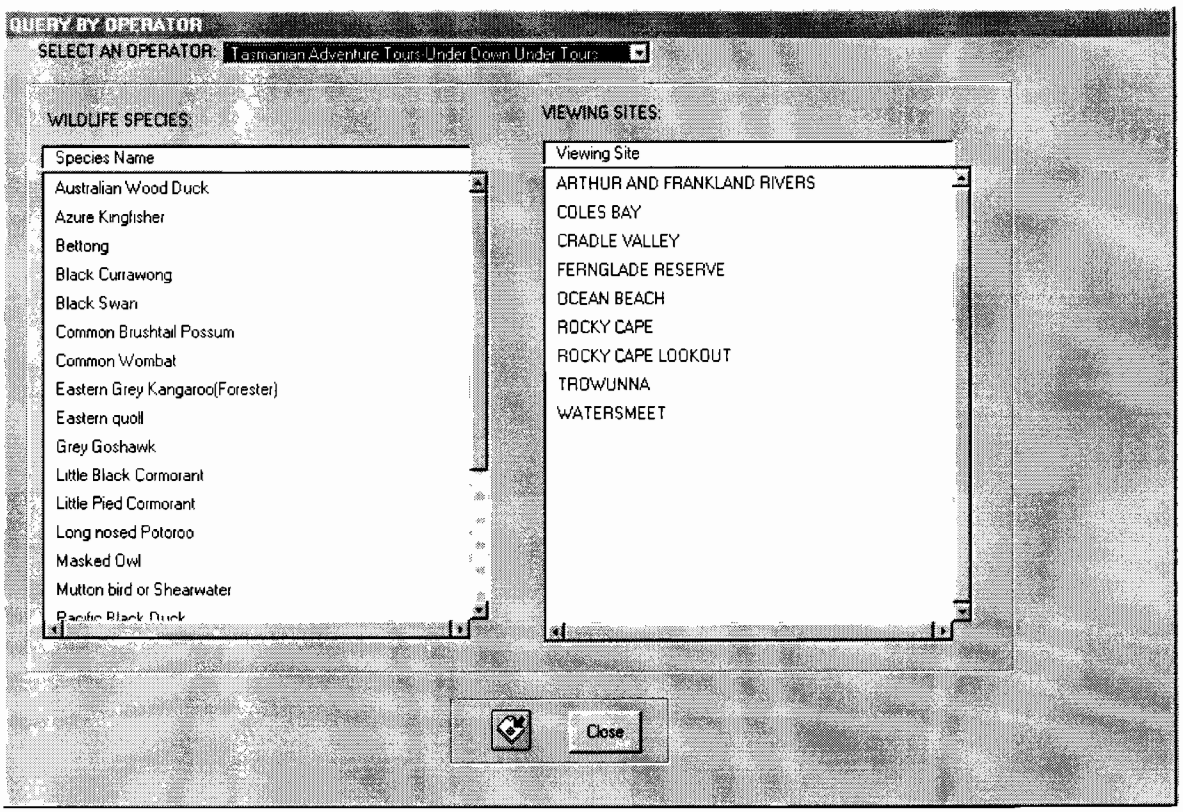
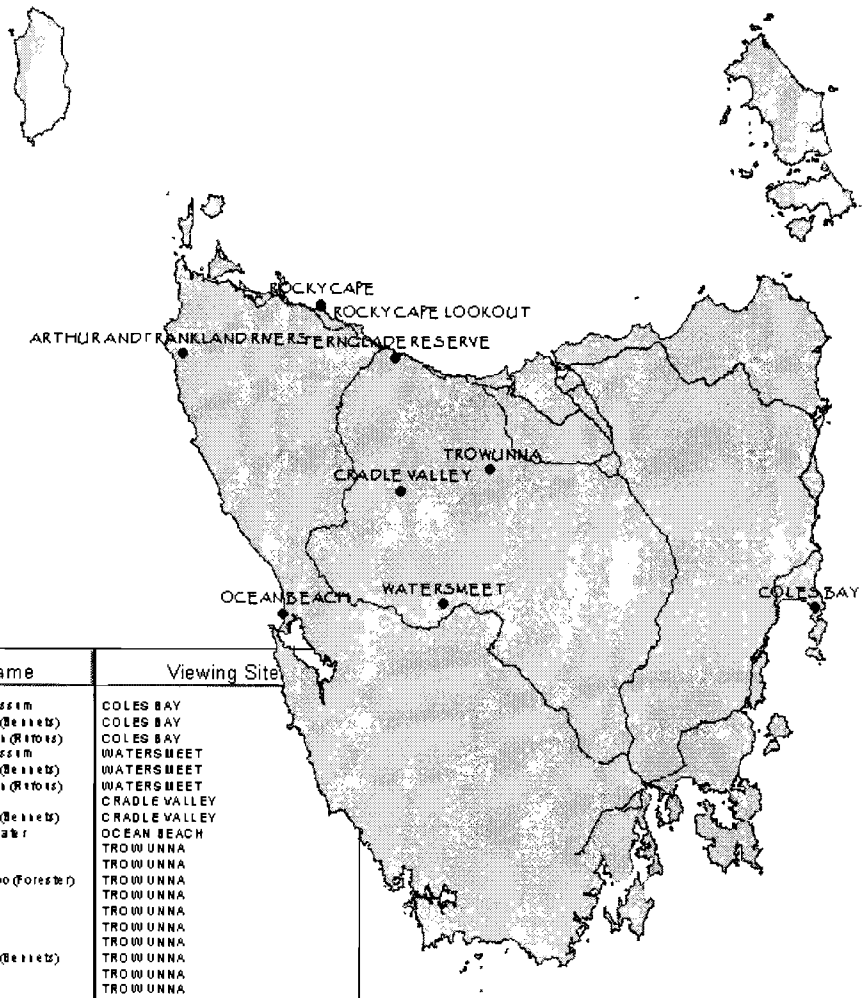


Figure 2 – Database Interrogated by Wildlife Tour Operator with Geographic Perspective

Query Results for Operator: Tasmanian Adventure Tours-Under Down Under Tours



Species Name	Viewing Site
Common Brushtail Possum	COLES BAY
Red-necked Wallaby (Bennetts)	COLES BAY
Tasmanian Pademelon (Rufous)	COLES BAY
Common Brushtail Possum	WATERSMEET
Red-necked Wallaby (Bennetts)	WATERSMEET
Tasmanian Pademelon (Rufous)	WATERSMEET
Black Currawong	CRADLE VALLEY
Red-necked Wallaby (Bennetts)	CRADLE VALLEY
Mutton bird or Shearwater	OCEAN BEACH
Bettong	TROWUNNA
Common Wombat	TROWUNNA
Eastern Grey Kangaroo (Forester)	TROWUNNA
Eastern quoll	TROWUNNA
Grey Goshawk	TROWUNNA
Long nosed Potoroo	TROWUNNA
Masked Owl	TROWUNNA
Red-necked Wallaby (Bennetts)	TROWUNNA
Spotted-tail quoll	TROWUNNA
Tasmanian devil	TROWUNNA
Tasmanian Pademelon (Rufous)	TROWUNNA
Wedge tailed Eagle	TROWUNNA
Australian Wood Duck	ARTHUR AND FRANKLAND RIVERS
Azure Kingfisher	ARTHUR AND FRANKLAND RIVERS
Black Swan	ARTHUR AND FRANKLAND RIVERS
Common Brushtail Possum	ROCKY CAPE
Red-necked Wallaby (Bennetts)	ROCKY CAPE
Tasmanian Pademelon (Rufous)	ROCKY CAPE
Australian Wood Duck	ARTHUR AND FRANKLAND RIVERS
Azure Kingfisher	ARTHUR AND FRANKLAND RIVERS
Black Swan	ARTHUR AND FRANKLAND RIVERS
Little Black Cormorant	ARTHUR AND FRANKLAND RIVERS
Little Pied Cormorant	ARTHUR AND FRANKLAND RIVERS
Pacific Black Duck	ARTHUR AND FRANKLAND RIVERS
Sea eagle	ARTHUR AND FRANKLAND RIVERS
Platypus	FERNGLADE RESERVE
Australian Wood Duck	ROCKY CAPE LOOKOUT
Azure Kingfisher	ROCKY CAPE LOOKOUT
Black Swan	ROCKY CAPE LOOKOUT
Common Brushtail Possum	ROCKY CAPE LOOKOUT
Little Black Cormorant	ROCKY CAPE LOOKOUT
Little Pied Cormorant	ROCKY CAPE LOOKOUT
Pacific Black Duck	ROCKY CAPE LOOKOUT
Red-necked Wallaby (Bennetts)	ROCKY CAPE LOOKOUT
Sea eagle	ROCKY CAPE LOOKOUT
Tasmanian Pademelon (Rufous)	ROCKY CAPE LOOKOUT

Contact Person	Phone
Andrew Del Vecchio and Jenny Clingly	6369 5555

Figure 3 – Database Interrogated by Species

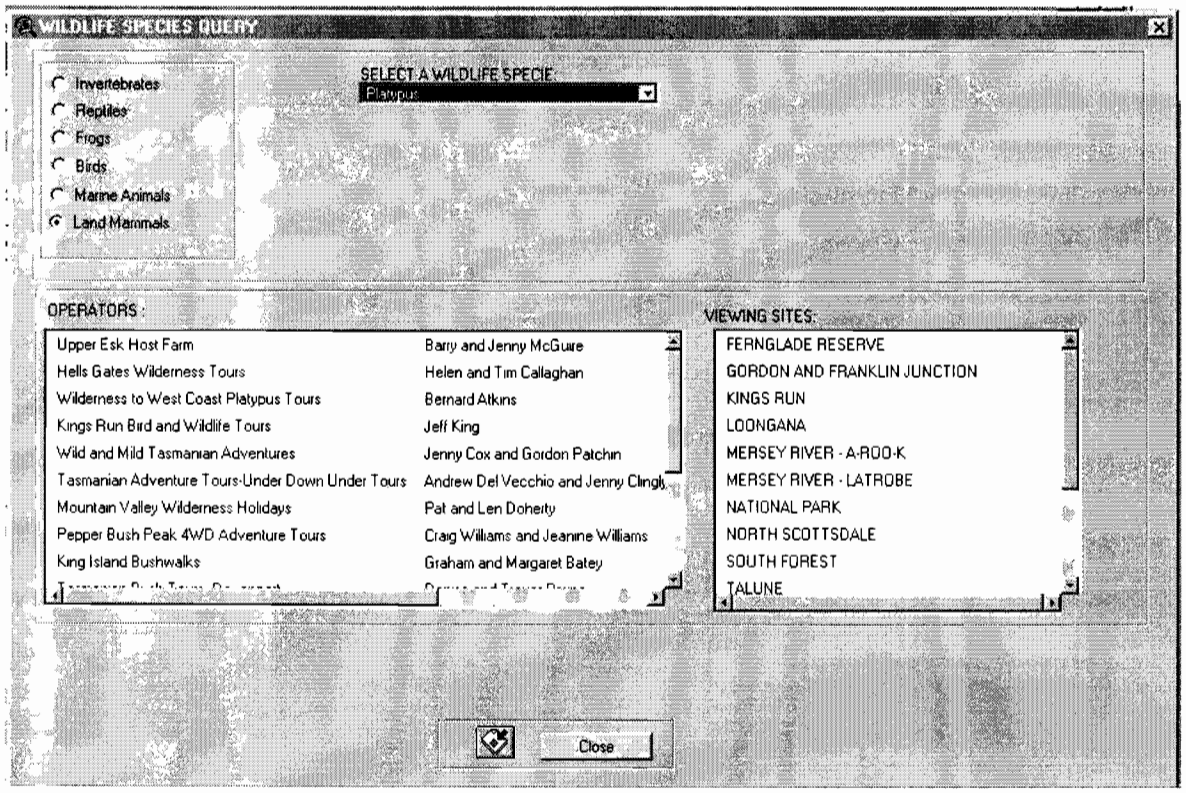
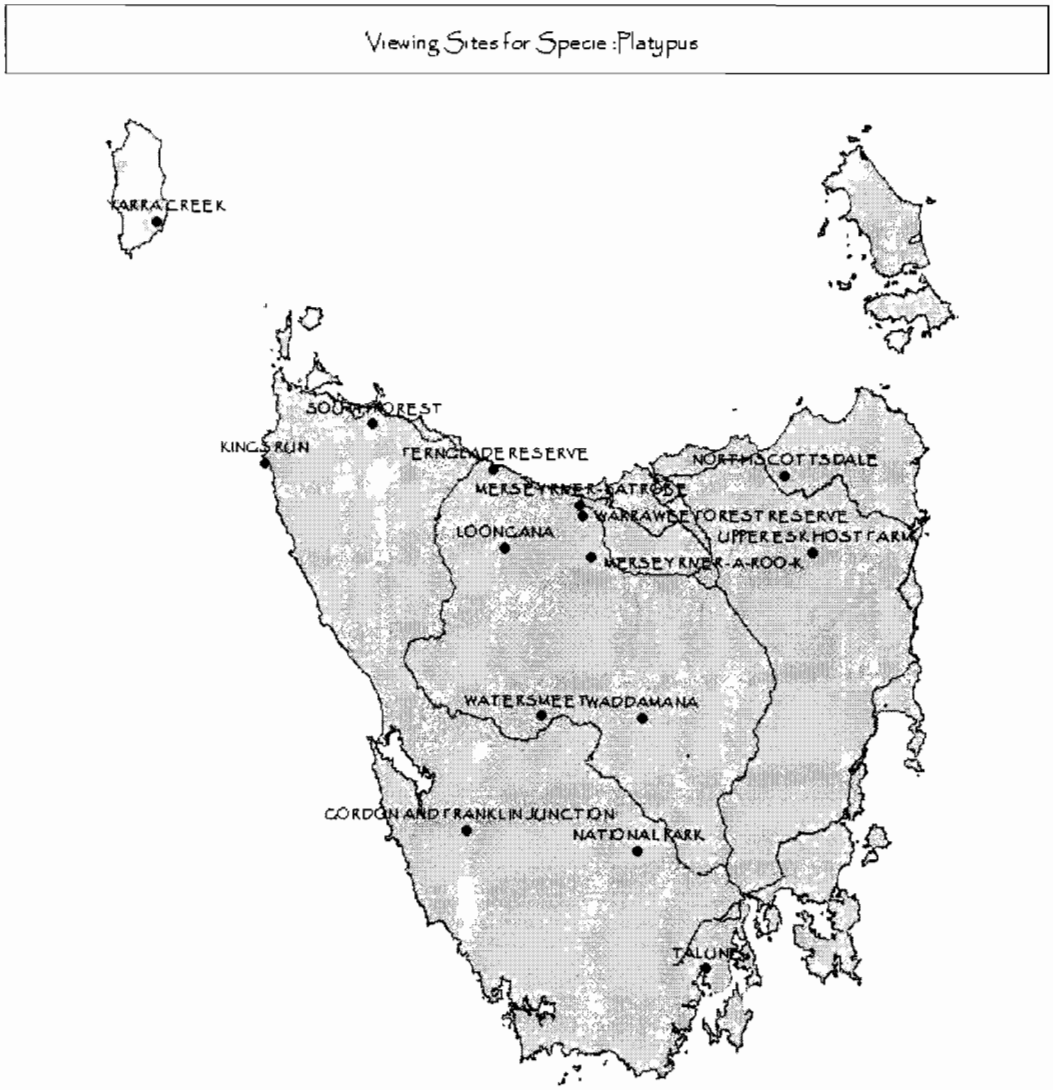


Figure 4 – Database Interrogated by Species with a Geographic Perspective



Viewing Site	Operator Name	Contact Person
WATERSMEET	Lake St Clair National Park	Richard Hale
TALUNE	Talune Wildlife Park and Koala Gardens	Mike Jagoe
WADDAMANA	Waddamana Field Study Centre	Frank Cooper and Helen Cooper
UPPER ESK HOST FARM	Upper Esk Host Farm	Barry and Jenny McGuire
SOUTH FOREST	Wilderness to West Coast Platypus Tours	Bernard Atkins
KINGS RUN	Kings Run Bird and Wildlife Tours	Jeff King
FERNGLADE RESERVE	Ferneglade self-guided platypus viewing	Nic Mookey, Stuart Lennox, Burnie City Council
LOONGANA	Mountain Valley Wilderness Holidays	Pat and Les Doherty.
YARRA CREEK	King Island Bushwalks	Graham and Margaret Bailey
WARRAWEE FOREST RESERVE	Latrobe Landcare - Platypus Tour	Ros Heddrich (Phillip and Colin)
MERSEY RIVER - A-ROO-K	A ROO K Tours	Andrew Kelly
NATIONAL PARK	Close to Nature	Tony and Alison Coleman
GORDON AND FRANKLIN JUNCTION	Hells Gates Wilderness Tours	Helen and Tim Callaghan
MERSEY RIVER - A-ROO-K	Wild and Wild Tasmanian Adventures	Jenny Cox and Gordon Patchett
MERSEY RIVER - A-ROO-K	Wild and Wild Tasmanian Adventures	Jenny Cox and Gordon Patchett
FERNGLADE RESERVE	Tasmanian Adventure Tours-Under Down Under Tours	Andrew Del Vecchio and Jenny Cringly
NORTH SCOTTSDALE	Pepper Bush Peak WILD Adventure Tours.	Craig Williams and Jeanine Williams
MERSEY RIVER - LATROBE	Tasmanian Bush Tours Devonport.	Denise and Trevor Payne
LOONGANA	Tasmanian Escape	Ros McCarthy
MERSEY RIVER - A-ROO-K	A ROO K Tours	Andrew Kelly
UNION BRIDGE	A ROO K Tours	Andrew Kelly

The database can also be interrogated by location. For instance, a viewer can 'click' a single region to view details of wildlife viewing (operator and species) in that region. This facility and the depiction of information in the geographic form (Figures 2 and 4) make it far easier for visitors or travel agents to create a personalised itinerary. By having a simple system that highlights the choices available, it should encourage greater incorporation of these types of tours into both packaged itineraries and self drive tours. This will have the effect of increasing demand within the wildlife tourism sector.

The most appropriate form for using the inventory is electronically preferably through a website or CD ROM format. This ensures it is user friendly, readily up-datable, cost effective and will facilitate marketing.

Figure 5: Higher-level Species groupings

Mammals
- Whales and dolphins
- Seals
- Kangaroos, wallabies, bettong and potoroos
- Platypus and echidna
- Wombats
- Possums
- Carnivorous marsupials
- Small mammals
- Bats

Birds
- Seabirds
- Penguins
- Raptors
- Waterfowl
- Waders
- Cockatoos and parrots
- Honeyeaters
- Small bush birds
- Currawongs and ravens
- Nocturnal

Reptiles and Amphibians
- Snakes
- Lizards
- Frogs

Marine
- Bony fish
- Sharks, rays and skates
- Seahorses and seadragons
- Seaweeds

Freshwater species

- Galaxids and graylings
- Freshwater lobsters

Terrestrial invertebrates

- Cave animals
- Glow worms

Plants

- Rainforest
- Alpine and sub-alpine
- Deciduous beech
- Wildflowers
- Fungi
- Native conifers
- Tall trees

5.4 Stage 2: Consideration of Geographic Distribution, Seasons and Primary and Secondary Product

Using the mapped inventory, choice sites were analysed for geographic distribution and seasonality. To enhance tourism in shoulder and low periods of the year, opportunities for wildlife viewing in all seasons were also noted and analysed.

Consideration of the travel objective of the participants as a primary product (wildlife viewing as the main activity) or secondary product (situations where wildlife viewing is supportive of, or incidental to the prime tourism activity) was also evaluated. The TWTI database can be readily be used in either case. For instance, the inventory can assist specialist wildlife tourists who have specific goals, such as seeing a specific species in a natural setting, or it can be used as a geographical aid to assist travellers designing a leisurely holiday in a particular region add a wildlife viewing activity to their program.

The inventory can also be used by tourism managers to examine the spatial distribution of opportunities within Tasmania to help determine regional requirements and assist in future prioritising of specific wildlife tourism objectives. The lengthy lists of potential possibilities for further additions to the TWTI (available as a working paper to Tourism Tasmania and some potential sites listed in Section 6.1) will further aid this process.

The TWTI can also be utilised further by the Wildlife Tourism sub-program of the CRC, particularly with respect to the status assessment project section on tourism classification of Australia wildlife. From the TWTI, a list of 'choice wildlife viewing sites' can be derived to form the focus of future commercial and non-commercial wildlife viewing programs. It can also be used to identify the products with the greatest potential using variables such as: viewers' preferences for species; distribution of species; and seasonality.

To enhance Tasmania's goal to become a world leader in wildlife tourism, national and international models of best practice in wildlife tourism need to be modified for Tasmania's sites and species and then understood and applied by both tourist and operator. Recognising the impact tourism can have on specific animals, plants and ecosystems and establishing codes to help minimise this was considered during the development of the database. Care needs to be taken in developing wildlife tourism as a product, as it must be the opportunity that is exploited rather than the wildlife (Wilson 1995:21). To help address this issue, basic information, largely adapted from Parks and Wildlife Service, has been included and covers viewing tips, seasonality and other issues. This can be accessed by requesting information on species or groups of species. This has been included in order to help the education process and make people aware of best viewing practices (a brief analysis of this is outlined in Section 6.2). Links to websites such as Parks & Wildlife Services for further information such as endangered species are included. Further development and research in this area is necessary to allow more comprehensive management plans to be developed, clearly showing areas considered too fragile for development programs and revealing areas well suited to them. It is recommended that guidelines on Minimum Impact Viewing be included in the electronic format of this database.

5.5 Stage 3: Product Developments and Marketing

The TWTI is a tool that should significantly enhance the wildlife tourism segment in Tasmania. In its current form it can be used for the:

- promotion of wildlife tourism in regional tourism development;
- promotion of best practice models for wildlife tourism;
- development of networking within the wildlife tourism industry;
- education of the public about unique wildlife and viewing opportunities;
- offering people enjoyable, high quality interpretive wildlife experiences;
- better management of the sector; and
- targeting segments within the wildlife tourism sector for more specific marketing.

Further examination of its ability to be integrated into future product development goals of the Wildlife Tourism Strategy still needs to be undertaken. The WTS is assessing market demand and supply and identifying product gaps and opportunities with clear direction in terms of fulfilling shortfalls. The TWTI will significantly enhance this process as well as help in the assessment of the role of wildlife tourism in regional tourism development, with particular emphasis on establishing strategically located visitor nodes for specialist markets.

The full documentation of all wildlife viewing opportunities in Tasmania was beyond the scope of this project. Only key players have been included here due to time restrictions. There is the capacity to further build on the current database by adding additional operators and sites. For instance, not all national parks are listed on the database despite the fact that several have a high reliability for sighting common animals such as Bennetts wallabies, pademelons and brushtailed possums. Specific bird watching sites, particularly those

suitable for the general wildlife enthusiast, could also be expanded. The availability of packaged material in key tourist locations needs to be examined to ensure the industry is utilising the opportunities to value-add appropriately. All these points should be borne in mind during subsequent analysis and development of the TWTI as a marketing tool.

A list of all currently included operators is in Appendix 3. There is the potential to add more self-guided tours. During the intensive fieldwork process required to develop the TWTI, potential operators for further product development were also identified and have been included in a working paper to Tourism Tasmania. Potential new self-guided sites are listed in Section 6.2. Clearly tourism is a dynamic industry and information can quickly date. Therefore, it is important that the final version of this report that is made accessible to the public, industry and media and can be easily updated. Its integration into TigerTOUR, a widely used industry tool that is regularly updated, enhances this.

It is also useful to ensure the material is made available to local Tasmanians. While few actually join operator-run trips within their own state, there are several good reasons to include them in the marketing process. It is important for local communities to both value wildlife and realise the value of wildlife tourism to their community. It is also important for them to know of, understand and follow wildlife viewing recommendations with respect to minimal impact guidelines. Current guidelines are mentioned in the database. From an industry point of view studies also show the importance of word-of-mouth recommendations. A survey by Ellingford (1996) of wildlife watching in Tasmania revealed 43% of those surveyed used friends or family living in Tasmania as a source of information to plan their visit.

Appendix 4 contains a list of useful reading material that could be identified for sale to wildlife tourists. Sales of specialist material can be significant and a selection of appropriate material has been added into the TigerTOUR database. Again this can easily be updated or tailored by species or location due to the electronic format of the inventory. Additional material of interest could possibly be added such as maps and postcards.

5.6 Workshops

Through the course of the fieldwork three workshops were held.

Introducing the Wildlife Tourism Strategy and the Tasmanian Wildlife Tourism Inventory

On 28 October 1999 the first workshop was held at the University of Tasmania, Hobart, Tasmania with 60 participants representing industry, government, nongovernmental organisations and researchers. This was part of a larger series of regional workshops held to:

- gain insights from key stakeholders into the issues and obstacles facing the wildlife tourism industry and discuss potential means of overcoming these;
- gather ideas for the development of new products and sites;

- disseminate information on the CRC's wildlife tourism research program, its progress and preliminary findings, and obtain feedback; and
- develop a network and strengthen ties between various stakeholders in the wildlife tourism industry.

Wildlife Tourism Workshop

On 15 May 2000 at Carrick, Tasmania, the second workshop was held with 70 participants representing industry, government, nongovernmental organisations and researchers. An explanation of the TWTI that was in its development stages was given. The workshop highlighted Professor Sam Ham (University of Idaho, Moscow, USA) who helped operators understand the value of interpretation and how to improve their skills. Associate Professor Betty Weiler (Monash University, Melbourne, Australia) discussed the national Nature and Ecotourism Guide Certification Program with a video and workbook designed to help train ecotour guides living in remote areas. Alice Crabtree and Meaghan Newson also outlined the role of the Ecotourism Association of Australia and the Nature and Ecotourism Accreditation Program (NEAP). It concluded with a look at the importance of quality interpretation from Jane Foley (Tourism Tasmania).

Interpreting for Wildlife

On 16 May 2000 at Carrick, Tasmania, the third workshop was held. Professor Sam Ham and Associate Professor Betty Weiler led sessions with specific reference to interpreting wildlife for tourism.

6. EXPANDING THE TWTI AND THE WILDLIFE TOURISM PRODUCT IN TASMANIA

6.1 Potential Sites for Further Product Development of Wildlife Tourism in Tasmania

The following sites were mentioned as potential places or ideas for further product development during the course of this research. Significant analysis would be required before their true viability as wildlife tourism sites is known.

- Accommodation at Narawntapu National Park. The abundance of wildlife and high reliability of viewing makes Narawntapu National Park one of the prime wildlife viewing sites in Tasmania. There is no accommodation in or very near the park. A 'standing camp' development might be ideal within the park. There is also potential for developing the old farmhouse complex into accommodation.

- Viewing of Tasmanian Devils at Devil Restaurants. Nick Mooney (Nature Conservation Branch) has developed 'Devil Restaurants' at Narawntapu National Park, Marrawah and Woolnorth where people under controlled conditions can view feeding and socialising wild devils. The concept comes with guidelines and safeguards for the wildlife and is being tested elsewhere. It might be possible to organise a similar plan with a strictly limited number of restaurants in each tourism region without harming the

devils. In fact, using road-killed wallabies for bait has been demonstrated to benefit devils by reducing numbers scavenging at road-kills. The intention is to develop this concept further with innovative technology allowing extremely close views.

- Accommodation and Tours of Mt William National Park. This area has tremendous wildlife assets but has a lack of accommodation. It might be possible to create accommodation at Musselroe Bay. There is also very little organised wildlife viewing (including spotlighting) in the area.

- Bird Hide at Moulting Lagoon. There is a suitable site at the southern end of Pelican Bay at Pelican Rocks, an area with big boulders just offshore and profuse bird life (pelicans, cormorants, egrets, oystercatchers, other waders and often spoonbills). There is a public car park about one kilometre away at the head of the bay. Freycinet Lodge and other operators already use the area for bird watching tours and another tourism operator has a nearby oyster lease. To offset local inconvenience and incompatibility with ecotourism during duck hunting season (March to June), a high quality, gravel car park and boardwalk to a viewing hide on Moulting Lagoon could be built.

- Bird hide on the upper Derwent River above Bridgewater at the Derwent River Conservation Area. In this area there are numerous black swans, ducks, pelicans, marsh harriers (spring-summer), coots and regular visits from sea eagles. The birds are reasonably tame despite the high volume of nearby traffic. There could be an opportunity for a bird hide on the southern side of the river near the causeway or higher up the river on the northern bank nearer Dromedary.

- Circular trail for Ground Parrot viewing near Strahan Airport. A 1.5 kilometre trail could be cut through the heathlands by Strahan Airport, a prime viewing area for ground parrots. This would address the safety problem of people currently wandering along the Ocean Beach Road looking for ground parrots at dusk. An interpretive panel is also recommended.

- Indigenous Wildlife Tourism. With its unique and highly visible snakes (3000-4000 and the largest tiger snakes in the world), Chappel Island in the Furneaux Group is an excellent opportunity for the Aboriginal community to initiate a wildlife viewing opportunity, perhaps by a walkway.

- Land Telescopes for Sea Bird and Whale Viewing. Prime sites for establishing land telescopes for sea bird and whale viewing (similar to those at Philip Island for seals) would be at Cape Bruny, Cape Tourville, Eddystone Point, Fossil Cliffs (Maria Island National Park) and Cape Wickham at King Island.

southeast of) Barrel Rock off the breakwater at the Low Head Pilot Station. The concept involves 360 degree viewing through Perspex, as with modern aquaria. A marine reserve around Barrel Rock would be needed. The pilot station gives tremendous infrastructure advantages (beyond its cultural heritage) and there is potential for a salt-water swimming pool behind the breakwater (it is almost one by default and lends itself to fish feeding, swimming, diving and kayaking lessons). The observatory site is 4-7m deep, a compact, complex, inshore community of great diversity with a reef, small kelp forest and seagrass beds. Nighttime would be prime viewing with remote-control spotlights showing squid, cuttlefish and all manner of other invertebrates. Seals, penguins and cormorants would also be seen and at some times of year the phosphorescence is stunning. There is an underwater observatory in New Zealand, floating in the Kelp Forest in the Bay of Islands, but no others in the temperate south.

- In the future it might be possible to have remote viewing of the seals on Barren Joey (Tenth Island) transmitted to the pilot station.

- There is also great potential for an underwater observatory under the wharf at Maria Island National Park.

- Remote Viewing Camera Link of Seal And Penguin Activity at Macquarie Island. This spectacular concept is worth consideration. Some of these remote-viewing sites are ideal for promotion (via web pages) of actual tours.

- Living with Wildlife Demonstrations. There is great potential to integrate tourism accommodation with wildlife via wildlife-friendly architecture. Wild animals and birds can be encouraged to live in and around a structure and the concept can be used as a wildlife awareness and appreciation mechanism. Remote viewing would also be used. A tourism facility could be a 'model' development or the concept could be included in other architecture. National Parks could easily adopt this with Visitor centres being ideal opportunities for demonstrating the practicalities of the concept.

- Forest Canopy Walks. Many of Tasmania's spectacular forests lend themselves to this concept. Forestry Tasmania has developed one at the Tahune Forest Reserve on the Picton River and has been very successful.

- Penguin Interpretive Centre. There remains potential for an interpretive centre incorporating nest burrows and penguin rehabilitation.

- Platypus Interpretive Centre. There is potential for an interpretive centre incorporating nest burrows.

6.2 Best Practice Viewing, Monitoring and Management of Wildlife Tourism

An initial set of information on species and site-specific educative information and guidelines is already included in the TWTI. These include some local guidelines for specialist opportunities already drawn up (e.g. seal and penguin viewing) but require expansion. Parks and Wildlife Service staff are formatting other guidelines (e.g. Tasmanian devil restaurants) and it is recommended that these be included. Specific topics that are currently under debate, such as habituated animals artificially fed becoming diseased or becoming pests, getting aggressive or being more likely road kill victims, also needs addressing. The Ecotourism Association of Australia has created Minimum Impact Viewing Guidelines for a number of different wildlife species and tours. Considerable research also needs to be undertaken regarding viewing tips as many ideas are based on assumptions such as tourist satisfaction increases the closer they get to a wild animal. Oram's (2000) recent work on visitor satisfaction levels at a whale watching area in Tangalooma, Queensland suggests this assumption may not always be valid. The development of clear guidelines that are promulgated to both visitor and operator would ensure the operator's task of educating visitors on acceptable codes of conduct should be easier. It would also encourage the operators to stick closely to the recommended guidelines as their clients may be assessing the operator's compliance and using it to partially develop their satisfaction levels of the trip.

By including the guidelines in the TWTI, it will hopefully become a mechanism for increasing visitor awareness and knowledge for self guided situations. Via the Tourism Tasmania website link, it is also hoped this information will reach a broad audience of locals as well as visitors.

The information on best practice viewing advice can be extended to include wildlife awareness information for drivers. Driver education will hopefully help decrease the numbers of road kill as well as raise visitor awareness of the range of issues involved and the process Tasmania is using to decrease the numbers.

Any best practice viewing advice or minimum impact viewing guidelines should be a part of the larger Code of Practice manual, ideally written by Parks and Wildlife Service staff, in conjunction with stakeholders. This would contain an Ethics Statement to help demonstrate and promote Tasmania as a site of best wildlife viewing practice. The process would require further education of operators and close cooperation with natural resource managers. The process could be integrated into an accreditation or partnership system. For instance, there could be a Wildlife Operators Accreditation System, perhaps via partnerships with the Parks and Wildlife Service, the Nature Conservation Branch or museums and operators. One suggestion is to offer various levels of accreditation and as an operator satisfies these, they are given the reward of reduced licensing fees. As well as marketing benefits the operator would then be supporting Parks and Wildlife Service standards by meeting conservation objectives and demonstrating best practice.

As well as the Code of Practice manual written for operators, broader management plans are needed. These should also be given to operators so all employees are aware of the context of agreed protocols. Direct strategies for managing impacts can include:

- limiting the total number of visitors to an area;
- dispersing visitors within an area;
- concentrating visitors in well managed/protected areas (e.g. using fixed viewing points);
- temporal zoning (e.g. closing visitation in certain periods such as breeding seasons);
- setting guidelines for minimum viewing distances and appropriate behaviours; and
- concealing observers through use of a hide or vegetation.

Indirect strategies that require a broader approach, usually through education are:

- modifying the behaviour of tourists (e.g. educate visitors about the potential disturbance they can cause and provide advice on how to reduce it); and
- making certain prerequisites and codes of conduct for wildlife tourism operators.

Any accreditation system requires an auditing and reviewing system to confirm accreditation or simply to help with standards, techniques and innovations. Even if no accreditation scheme was developed, wildlife viewing must be ecologically sustainable and so monitoring should be carried out. A specific Wildlife Tourism Unit that could also be responsible for providing advice and assisting innovations in the industry could be developed. An auditing process could operate in a similar fashion to that carried out by the Department of Conservation in New Zealand, where no-notice visits or 'in cognito' visits are conducted so credible audits are obtained. A more friendly approach may be to develop a mentoring program. Various styles can be successful linking operators, Parks and Wildlife staff and wildlife experts.

Some of the suggested impacts wildlife tourism can have include direct impacts such as:

- disturbance of resting, feeding and breeding;
- increased vulnerability to competitors and predators by distracting, exposing or separating;
- disruption of parent-offspring bonds;
- transmission of diseases; and
- death or injury of individuals.

And indirect impacts such as:

- habitat modification or destruction; and
- impacts from associated infrastructure (e.g. pollution, light, noise).

The impacts can vary tremendously between species, habitats and seasons as well as with other factors. For instance, smaller populations of rare and/or slowly reproducing species are usually affected more than large, widely distributed populations of common species. Very few studies have been undertaken but it is clear that the monitoring of key species, visitor dynamics and effectiveness of visitor management require examination.

6.3 Improving the Level of Education and Interpretation

Raising the level of interpretation and education is crucial to establish Tasmania as a premier wildlife tourism destination. Considerable work has been done in this area nationally with the establishment of the National Nature and Ecotour Guide Certificate Program and the National Ecotourism Accreditation Program (NEAP). There is also an active Interpretation Australia Association as well as groups such as the Ecotourism Association of Australia that regularly work to improve the standard of the industry within the country.

The production of the TWTI has provided a tool that can be of great use within the industry as well as marketing the industry externally. Many of Tasmania's wildlife tourism operators work in relative isolation and little networking has yet developed between them or between many of them and government, other industry representatives or conservation or not-for-profit groups. One of the clearest outcomes from the three workshops held in conjunction with this project (see Section 5.6) was the need and support for a network where ideas could be shared and issues and problems addressed.

The TWTI has produced a database of operators that can be used to help create this network. For managers of the wildlife industry the TWTI also establishes a tool that can be used rapidly and flexibly to help address issues and assess outcomes. For instance the need for teaching appropriate nocturnal tour techniques, including spot lighting, emerged as a request by some operators. The TWTI allows managers to immediately determine who are currently spot lighting and the size and spatial requirements of a training program (there are around forty operators who fit into this category including more than 15 penguin and/or shearwater tours).

The issue of having access to good quality photographs for use in marketing was also raised by operators and again the TWTI immediately gives mangers an understanding of the range of species and locations required for marketing use.

While the literature discusses many ways to improve interpretation, certain Tasmania specific and species-specific ideas were identified during this fieldwork. To demonstrate the type of work that can be done, and still needs to be done, in this area, the topic of 'interpretation kits' and possible aids for use in wildlife tourism are included below. Some of these ideas will require training of operators and specific protocols to be developed to ensure the aids are being used appropriately.

Interpretive Kits

The following are potential useful interpretation aids for operators. The requirements of tour operators obviously vary significantly depending on their

target species, habitat and conditions. However, a kit should be essential and each should be tailor-made. For example, an operator showing shearwaters might have a kit containing:

- note sheets (e.g. Parks & Wildlife hand-outs), multi-lingual if appropriate;
- krill and other shearwater food in a jar;
- mounted or freeze-dried adult and chick;
- a reconstructed skeleton;
- wings and feet;
- an egg;
- plaster casts of shearwater footprints;
- a map showing the migration routes;
- a tape of calls and a Walkman or small tape player;
- torches with red or amber filters;
- binoculars; and
- some baleen to explain how some competitors of shearwaters feed.

Tape recordings and footprints could be sold.

In the past, some of these items that require a permit to collect and possess have been available on loan from the Nature Conservation Branch or museums. Future anticipated demand for kits means that this agency will have to come up with a new means of giving operators access to these resources. Some items in kits can be made (eggs from plaster or unprotected species' eggs), skulls and skeletons from resin but some important items such as mounted specimens will have to be provided on permit.

Further aids for enhancing wildlife viewing

Animal Tracks
Inkpads can be used for recording footprints off road kills. Also, a small amount of plaster (casting plaster is cheap but dental plaster sets much faster) for taking casts of footprints is ideal. Both make great souvenirs as well as educative tools.

Security Cameras
These electronic aids can be used for a wide variety of wildlife observations. They are reasonably cheap and effective. Some have infrared diodes to aid in low-light vision. These 'off the shelf' cameras can be put in nests or dens and hard-wired back to the monitor which itself can be run through a VCR to a TV for a larger image. This is an especially good way to get intimate, natural behaviours of sensitive species. Visitor centres, lodges or tourist accommodation could be equipped and show nearby nesting birds or mammals denning under the buildings. Remote area systems could be solar-powered.

Intercom Systems
There are a number of cheap and effective 'off the shelf' intercoms available. Some are hard-wired, others are based on FM band. Microphones can be put in nests or dens and speakers plugged in to 'see if anything is inside' or the speakers can be set up on a long-term basis and left in visitor areas.

Bat Detectors
These electronic devices pick up the sounds of bats. Several examples are the Magenta Bat MK II and the ANA Bat II Bat Detector.

Filter Torches
Powerful rechargeable torches with amber or red filter covers are suitable for nocturnal viewing.

CD ROM packages which are linked to a GPS system.
These may be worth developing and it would be feasible to integrate the TWTI or individual sections. As a visitor drives or walks past key points of interpretive interest, which are linked to waypoints on the GPS, an informative and educational wildlife (or otherwise) message is received. For instance, this could be used on air flights to Melaleuca to view Orange Bellied Parrots.

Disposable Underwater Cameras
These cost very little and can be very useful when viewing fish or seals (they can simply be held over the side underwater) or used snorkelling and swimming.

Shark–proof Dive Tube
These protective tubes made of high-density polycarbonate (bullet-proof plastic) to enhance underwater viewing experiences by giving confidence. These tubes can be floated and tethered to provide very safe viewing of the underwater environment even for people less familiar with the sea.

Binoculars or Telescope
These are essential for most wildlife viewing. Cheap binoculars exist permitting operators to afford spare pairs, but they do need looking after. A telescope is especially good because the guide can adjust it to focus on an object that others cannot easily see.

Field Guide Books
Although some exist (for mammals, birds, fish, skulls, tracks and traces, flowers, trees, fungi, insects, spiders etc) there is always a need to develop more, small pocket-sized field guides to wildlife and habitat.

Integrative Architecture
The tourism industry should consider building 'wildlife friendly' features such as transparent dens and nest boxes along with intercoms into architecture, particularly that visited by tourists.

6.4 Further Segmenting the Wildlife Tourism Sector

There is very little specific knowledge of the wildlife tourism visitor segment to Tasmania. While wildlife viewing is popular it appears to often be a secondary motive in the decision to holiday in Tasmania. This may be partly based on past marketing, as many of the wildlife opportunities have not been specifically targeted at serious wildlife tourists. It was clear during the preparation of the database that various segments do exist within wildlife tourism. This is also apparent from the emerging body of literature on the subject. For instance,

Woods (2001) discusses the differences between the novice or generalist viewer and the specialist viewer. Weaver (2001) profiled 'hard core' ecotourists in Lamington National Park, Australia and found they vary significantly from general ecotourists. Little is yet known about these segments within the Tasmanian context. It is likely that some such as serious bird watchers and tourists working on scientific projects are relatively distinct groups. Others may be broader and overlap with other factors such as captive animal attractions with viewing wildlife in nature, and underwater naturalists and broader scuba divers.

The development of a specific bird watching operation at Bruny Island is one example of the successful development of a new wildlife tourism niche. A number of important bird viewing areas and operators have been included in the TWTI in recognition of the strong market interest and further development potential in this area.

Other sectors such as wildlife tourists working in conjunction with scientific researchers have not yet been researched but several examples and possible projects were discussed during the course of the fieldwork. The area requires further research to determine the demand and supply issues within Tasmania, but given Tasmania's image and array of unique species, it is seen as an area with potential.

7. FUTURE DIRECTIONS AND LESSONS LEARNT

The development of the TWTI is a significant step in the development of a comprehensive Tasmanian Wildlife Tourism Strategy. It has provided a database and spatial information for an integrated and strategic approach to be undertaken in marketing the State's wildlife product. Furthermore, the process has helped identify new wildlife tourism opportunities (commercial and self guided) for broadening the base. It has also started to reveal that the wildlife tourism market can, and should be, segmented for more specific and efficient marketing.

Importantly the TWTI is also a tool that can be developed and utilized to be far more than simply a marketing technique. It has shown itself to be a suitable mechanism for further development in areas such as increasing visitor awareness of best viewing practices, highlighting driving awareness tips for wildlife to help reduce road kill, and adding further information that may help tourists interested in Tasmania's wildlife. Overall, by raising awareness of the issues and the education of tourists, Tasmania's green image and the sustainability of wildlife tourism in the state will be increased.

Just as importantly, the data collection process has helped demonstrate the benefits of developing a network of support for the operators. The network can have many uses but education is of high priority. Developing and establishing good working models of best practice in wildlife tourism strengthens both the economic and environmental sustainability prospects of the industry. This process will require considerable discussion and cooperation between the various stakeholders and the potential for strong strategic alliances or partnerships between Government and operators exists.

Overall, the identification of key market segments, tactical marketing initiatives and direction on presentation and marketing of wildlife tourism in Tasmania including web-based promotion are now much simpler with the TWTI.

Further work is recommended:

- to develop further codes for minimum impact viewing guidelines for both specific sites and species and add these to the database;
- establish regular training courses or seminars to help operators not only develop and implement minimum impact viewing guidelines for their sites in conjunction with experts, but also improve overall interpretation skills;
- develop good working models of best practice in wildlife viewing;
- continue work on minimising road kill problems, analysis of impacts of artificial feeding and other wildlife issues;
- develop working relationships between stakeholders, particularly between operators and Government. This should include an analysis of formal partnerships as a way of improving the industry. Stakeholders include the community, operators, landowners and managers, local and regional Government, Government agencies, conservation groups as well as tourists and the tourism industry;
- rapidly establish means to monitor/audit key sites for visitor impacts, including the development of base-line data;
- conduct further research in wildlife tourism to gain a better understanding of the different segments within the sector and the relevant demand and supply issues;
- create itineraries in each wildlife-viewing cluster;
- analyse the existing location, species, operator and other supply information against potential demand to determine gaps and opportunities in Tasmania's wildlife tourism market;
- identify and promote the value of wildlife tourism to the local community;
- develop and include more flora programs and/or linkages of fauna with flora and natural scenic areas; and
- examine the further potential of wildlife tourism on the offshore islands around Tasmania and the incorporation of the sub-Antarctic islands and Antarctica into the Inventory.

Lessons Learnt

As this is the first detailed wildlife tourism inventory developed in Australia and the first GIS mapped program, a number of points and aspects arose during the fieldwork and development stages that should be noted for future projects.

- an additional data field for accommodation tied to wildlife tourism could have been added.
- the collection of data in the field was extremely comprehensive and much of this has been saved and sent as a working document to Tourism Tasmania to aid future development tasks. But for the purposes of developing the GIS and TWTI, less information was required. This is particularly true from a species point of view.

- the reliability of seeing wildlife was defined as 80% and determined by the operator. Obviously this will change dependent on many factors including climate, food availability and season. This reliability factor needs to be examined for appropriateness and be made clear to the consumer to help avoid false expectations.
- the search tools need to be defined at an early stage and should be kept basic. To help determine these the users, distribution system and method of upgrading the system (and how often) should all be determined in advance.
- the database should include a question and answer style section.

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Appendix 2 - Data Obtained for Each Operator or Each Site

Operator Contact Details

- Key names
- Postal address
- Phone, fax, email, web sites
- Areas in which marketing is undertaken
- Accreditation details e.g. National Ecotourism Accreditation Program

Tour and Area Description

- Guided or self-guided tour
- Name of tour
- Exact location as grid reference of operator base or viewing site
- Physical description of site
- Habitat classification of site
- Land tenure at site
- Accessibility of site to people
- Facilities at site
- Interpretive tools used or information available during tour
- Variety of viewing places
- Summary of the particular tour offered
- Track notes
- Physical fitness required
- Time required
- Maximum number of tourists per guide
- Viewing guidelines for that experience
- Comments on operators practices
- Average size of group visiting site and the frequency of visits
- Captive display or wild animals
- Source of information and date.

Species Description

- Name (common and scientific) of key species encountered
- Status of species (threatened, secure etc).
- Notes of interest about key species
- Probability of viewing as a percentage (estimate from operator)
- Seasonality of viewing key species
- Approachability as usual minimum distance between tourist and animal
- Whether wildlife is hand or otherwise artificially fed
- Apparent physical condition of wildlife

Appendix 3 - Wildlife Viewing Opportunities on the Inventory

The South

Bruny Island Charter	Seal Tour
Central Tas Community College, Oatlands	Bird watching Tour
Clifton Beach Muttonbird Tours	Muttonbird Tour
Close to Nature	Afternoon and evening Wildlife Tour
Freycinet Lodge	Bird watching Tour Spotlight Stroll
Freycinet Sea Charters	Seal Tour Whale Watching Tour
Hamilton's Tasmania Discoveries	7, 5 & 3 day Explorer Tours 1 day Devil Explorer Platypus Explorer
The Hastings Caves and Thermal Springs	Newdegate Cave Tour King George V Adventure Caving - 1 day
Hobart Bushcare Adventures 2000	Bat Tour Nocturnal Mammals Tour
Huon Magical Mystery Tours	Mystery Creek Cave
Inala Nature Tours of Bruny Island	Bird watching Tours Penguins, Possums & Pademelons Tour
Little Island Tours, Bruny Island	Penguin Tours
Par Avion Wilderness Tours	Orange Bellied Parrot, SW
Pawletta Charters	Offshore Sea Bird Viewing
Personalised Sea Charters	Seal Tours
PWS Bruny Island	Penguin Viewing
PWS Lake St Clair	Platypus Viewing Nocturnal Viewing
PWS Maria Island	Wildlife & Birds
PWS Mt Field	Nocturnal wildlife
PWS Swansea	Shearwater viewing
Talune Wildlife Park & Koala Gardens	Wildlife, Platypus Tank
Tasair	Orange Bellied Parrot, SW Maria Is. Birds & Wildlife
Tasmanian Devil Park	Wildlife, Bird Show
Tasman Nature Guiding	Bird watching Tours
The World Tiger Snake Centre	Snake tours
Waddamana Field Study Centre	Self guided nocturnal wildlife

The North and North East

AusTrav Tours	Devils, Caves and Capers Tour
Bicheno Penguin and Adventure Tours	Penguin Tours
East Coast Birdlife and Animal Park	Wildlife and birds
Flinders Island Adventures	Muttonbird viewing from the sea. Offshore Sea Bird Tours
Flinders Island Dive	Diving
Glass Bottom Boat Tours	Marine Tours
Mountain Valley Wilderness Holidays	Platypus, Nocturnal Tours & Glow-worm Caves
Nocturnal Tours	Penguin Tours
Patriach Wildlife Sanctuary, Flinders Is.	Wallabies and birdlife
Pepper Bush Steaks 4WD Adventure Tours	Platypus, Nocturnal Tours
PWS Asbestos Range National Park	Bird watching Nocturnal Viewing Devil Restaurant
PWS Flinders Island Ecology Trail	Bird watching
PWS Mole Creek Karst National Park	Marakoopa Cave
PWS Mt William National Park	Nocturnal self guided
PWS Trevallyn Reserve	Echidna self guided Tamar Is Bird watching Tour
Queen Victoria Museum	Snakes
Seal and Sea Adventure Tours	Seal and Marine Viewing
Sealife Centre and Aquarium, Bicheno	Captive marine life
Tasmanian Escape	3-Day Fauna Tour
Thorleys Forest Excursions	Nocturnal Viewing
Trowunna Wildlife Park	Wildlife, devil feeding
Under Down Under	7, 5 & 3 Day Tours
Upper Esk Host Farm	Nocturnal Wildlife Tour
Waterbird Haven Trust	Captive birds
Wild Cave Tours	Cave Tours
Wombat Way Lodge	Self guided nocturnal wildlife

The North West

A ROO K Tours	Platypus, nocturnal wildlife and other wildlife tours
Arthur River Cruises	Arthur River bird watching
Beachside Retreat, W Inlet, Stanley	Bat & Nocturnal Tour
	Frog Tour
Birdland Native Gardens	Self guided Bird watching
Cradle Discovery Tours	Nocturnal Tours
Cradle Mountain Lodge	Wildlife Feeding
	Nocturnal Tour
Fernglade Reserve	Self guided platypus
Forest Glen Tea Gardens & Bird Sanctuary	Bird watching
Flowerdale Valley Emu Farm	Emus
Gunns Plains Cave	Cave Tour
Hanlon House Penguin Tour	Penguin Tour
Hells Gates Wilderness Tours	Gordon River Platypus & Birds
King Island Bushwalks	Early Bird Walk
	Platypus Walk
	Orange Bellied Parrot Tour
King Island Coach Tours	Penguin viewing
King Island Dive Charters	Diving
King Island Holiday Village	Penguin Tours
Kings Run Bird and Wildlife Tour	Devil viewing, platypus
	Bird watching tours
Latrobe Landcare	Platypus tour
Silver Ridge Retreat	Nocturnal Wildlife
Strahan Airport Heathlands	Ground Parrot
The Penguin Point	Penguin Tours
PWS Cradle Mountain	Wombat tour
PWS & Friends of Lillicoe	Penguin tour
PWS Rocky Cape National Park	Self guided Bird watching
PWS Strahan:	Birch's Inlet Orange-bellied Parrot
	Ocean Beach shearwaters
Stanley Penguin Tours	Penguin Tour
Stanley Seal Cruises	Seal Tour
Strahan Marine Charters	Muttonbird viewing from the sea
Tasmanian Reptile Education Service	Snake and reptile shows
Tasman Bush Tours	Platypus Tours, nocturnal wildlife
Three Hummock Island Escape	Wildlife, bird and marine tours
Top Tours King Island	Penguin Viewing
Tullah Lakeside Chalet	Frog tours
West Coast Scenic River Cruises	Arthur River bird watching
Wild and Mild Adventures	Nocturnal wildlife & seals
Wilderness to West Coast	Platypus tours
Wings Farm Park: Tas Reptile Centre	Snakes and reptiles
Wynyard Fairy Penguin Tours	Penguin tours

Appendix 4 - Useful Reading Guide for Visitors

Books that could be included in a suggested visitor reading list.

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info@unrisd.org

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"The Minch Project: wildlife tourism in the Minch Distribution, Impact and development opportunities. www.w-isles.gov.uk/w-isles/minch/wildlife/wildtour

"Resource Futures, Tourism Futures"
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TED Case Studies "Galapagos Tourism"
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